ORIGINAL INVESTIGATION

Loneliness among older Europeans

Gerdt Sundström · Eleonor Fransson · Bo Malmberg · Adam Davey

Published online: 6 November 2009 © Springer-Verlag 2009

Abstract More than two decades of research has consistently indicated that feelings of loneliness among older people are more common in southern Europe than in its northern parts, with the lowest rates in Denmark and Sweden. Our analyses based on analysis of 2004-2006 data from 8,787 individuals aged 65 years or older in the SHARE project replicate, update, and extend these findings. We found, similar to previous studies, that the prevalence of feelings of loneliness was more common in the Mediterranean countries than in Northern Europe. Living together with a spouse/partner was consistently associated with the lower prevalence of loneliness across countries. The combination of living alone and having bad health was associated with 10 times higher odds of feeling lonely as compared with living together with someone and having good health. With regard to gender and health, we found signs of differences between countries in how these factors were related to loneliness. Our results indicate the importance of both contextual features and cultural expectations in interpreting reported loneliness, that is, loneliness across Europe has both nomothetic and idiographic features.

Keywords Loneliness · Old age · Health · Living arrangement · Culture

G. Sundström (☒) · E. Fransson · B. Malmberg Institute of Gerontology, School of Health Sciences, Jönköping University, Box 1026, 55111 Jönköping, Sweden e-mail: gerdt.sundstrom@hhj.hj.se

A. Davey College of Health Professions, Temple University, Philadelphia, PA, USA

Introduction

Gerontologists have long tried to dispel what is seen as a stereotype: that older people are generally lonesome, at least in "modern" welfare states. Laymen and professionals often assume that loneliness is inherent to old age, and in the same vein, it is often postulated that loneliness and isolation have increased over time, especially in countries with impersonal, socialized systems of welfare, and a culture of "individualism". This has led some observers to blame the "epidemic" of loneliness on "today's self-obsessed climate" (Killeen 1997). A recent review in this journal gave a comprehensive overview of "myths and realities" about older adult loneliness (Dykstra 2009).

But, there is also another paradox in research on loneliness. Co-residence and culture-bound indicators of intimacy and community, assumed to prevent loneliness, are clearly more common in Southern European countries, but they all had previously and still have rates of reported loneliness among older people much higher than in the Nordic countries. This discrepancy was characterized as "confusing" in an early comparative analysis of data collected for some eleven European localities in a WHO-study in the late 1970s (Jylhä and Jokela 1990). Quite similar patterns were found in the Eurobarometer study of 1992 (Walker 1993; Socialstyrelsen 1994). It remains unclear whether there is a cultural North-South divide in loneliness, where it may be located, what the causes are, and the interrelationship to contextual features such as health and living arrangements, well-known to correlate with loneliness in country-specific studies.

There are also clear differences in the way loneliness is handled in public discourses. For example, the fact that older people increasingly live alone receives attention in Spanish media which also have dramatized a few cases of



persons who died alone and were not found at once. The political opposition asks for government intervention (*El Pais* February 19 2007). Similar cases in Sweden, elicit little or no media coverage. The political significance of loneliness extends also to France. The 2003 heat wave, with some 15,000 extra deaths of older people, helped to create an impression that many older people are isolated and abandoned. Although this has found little empirical support (Ogg 2006), it prompted government recommendations to monitor groups at risk of 'marginalization' and campaigns to alleviate their plight. A search of newspaper cuttings on loneliness collected by the library of Caisse nationale d'assurance vieillesse in Paris in 2007 found this to be a well-covered and highly emotional subject in French media over the last few decades.

If loneliness were tied primarily to solitary living, we would expect to find more loneliness in the Nordic countries who were the first to go through household atomization, an important aspect of "modernization". In Denmark and Sweden, older persons either live just with their spouse/ partner, alone or are institutionalized (six per cent). Only about 2% of older people live with other people than a partner. Yet, empirical studies do not suggest high rates of loneliness, nor any trend of isolation or perceived loneliness before, during, or after "modernization". At least, this has not been found in Britain or Sweden, two "modernized" countries where data on loneliness are available over time (Sheldon 1948, here after Walker and Walker 2005; Victor et al. 2002, 2005). Since the first national survey of older persons in Sweden in 1954 there has, if anything, been a decrease in reported isolation and loneliness, in spite of older people being urbanized and "modernized" during this era (Sundström 1983).

Clearly, feelings of loneliness may mirror the state of intimate community ties in a country or culture, but it may also be a response to erosion of these ties, exemplified by household atomization and mobility, or in more general terms, the divergence between expectations and actual living arrangements (Jylhä and Jokela 1990). If the prevalence of loneliness is lower in countries which have gone through this process, we might theoretically suspect that expectations have been adjusted accordingly and that initially high rates of loneliness have declined. To complicate it further, loneliness may-hypothetically-even express perceived deviance from a culturally idealized past of dense community. This certainly is the case in Western societies, for example, "verified" by older Norwegians when they state in a survey that families took better care of their elders previously (Daatland 1994).

It is possible that expectations on social interaction are much higher in the South—where co-residence is (still) the norm—than in the North of Europe, where living alone is usually expected and even seen as independence. To gauge cultural norms is less than easy, but in the context of oldage care, one may refer to recent opinion polls, where people in Southern Europe express vastly higher expectations on family support for ageing parents and much lower for institutional care than people in Northern Europe (Special Eurobarometer 283 2007). If cultural expectations for family care are very high, not even generally extensive generational co-residence and more intense interaction may offset frustrations and feelings of solitude. It has been found that co-residence with off-spring did not entirely make away with loneliness in Italy, and even increased it in Canada and The Netherlands (Tilburg et al. 2004). Co-residence beyond a spouse/partner is a "last resort" in the latter countries but a preferred alternative in Italy. Both this and an earlier study found that older persons living with just their spouse/partner were among the least lonesome, although the investigators did not emphasize the significance of this finding (de Jong Gierveld and van Tilburg 1999). This, and the consequence for loneliness of care for a spouse/partner, will be explored in some detail.

Aims

Cross-cultural or comparative research can be nomothetic and/or idiographic, that is, try to lay bare what is similar between various countries or societies, and/or to assess the differences between them (Tesch-Römer and von Kondratowitz 2006). Most of the previous research on loneliness confirms the significance of failing health and of living alone for higher incidences of unwanted loneliness (for example, Victor et al. 2005); several also suggest profound cultural differences in the perception of loneliness. Our aim in this study is to use new and uniform evidence on perceived loneliness in several countries and analyze them in a comparable manner across countries. We will consider how living arrangements, other socio-demographic factors, and health, affect loneliness in each country, enabling us to assess the influence of nomothetic factors and suggest the size of cultural expectations in these countries.

Methods and material

Data from the first wave of the Survey of Health, Ageing, and Retirement in Europe (SHARE), performed in 2004–2006, is used in the present study. SHARE is a crossnational survey comprising data from 12 countries ranging from northern Europe to the Mediterranean region (Denmark, Sweden, Austria, France, Germany, Switzerland, Belgium, the Netherlands, Spain, Italy, Israel, and Greece). In this study, we use data from SHARE wave 1, release 2.



SHARE consists of representative samples from the non-institutionalized population aged 50 and older, and their spouses, in the participating countries. The data base contains information from approximately 31,000 persons (Release 2). The sampling design in SHARE varied between countries, including simple random sampling as well as multistage sampling. The target population was defined both in terms of households and individuals. The overall household response rate was 60.6% and varied from 39% in Switzerland to 79% in France. The within household individual response rate was 85%, ranging from 74% in Spain to 93% in Denmark.

The SHARE data base contains information on health variables (e.g., self-reported health, physical functioning, cognitive functioning), psychological variables (e.g., psychological health, well-being, life satisfaction), economic variables (current work activity, income, housing, education), and social support variables (e.g., assistance within families, social networks). Data were collected using a computer-assisted personal interviewing program. The interview was supplemented with a self-administered paper-and-pencil questionnaire, covering topics which may be considered as sensitive by the respondents (e.g., social and psychological well-being, political affiliation, and religiosity). A single question was asked about perceived loneliness: "How often have you experienced the feeling of loneliness over the last week" with response categories of 1 = almost all of the time, 2 = most of the time, 3 =some of the time, and 4 = almost none of the time. A more detailed description of the SHARE survey can be found in Börsch-Supan and Jürges (2005).

In this study of loneliness, we restrict our analysis to individuals aged 65 years or older.

Statistical methods

We used χ^2 -tests to compare the proportions of loneliness between countries. Unconditional logistic regression was used to estimate the association between loneliness and gender, age, education, living arrangement and health status in each country. In the analysis, loneliness was dichotomized into substantial loneliness (almost all of the time or most of the time) versus less frequent feelings of loneliness (some of the time or almost none of the time). Age was categorized into three groups (65–70, 71–80, and 81+ years). Educational level was dichotomized based on the International Standard Classification of Education (ISCED-97) codes, with an ISCED-97 code ≤2 categorized as low educational level, and >2 as high educational level. Living arrangement was categorized as living alone, living with spouse/partner only, and other living arrangements. Subjective health was dichotomized as good (very good or good) or poor (fair, bad or very bad).

Additional analyses combined living arrangement and subjective health status into four groups (living alone and bad health, living alone and good health, living together with someone and bad health, and living together with someone and good health).

Indicator variables were constructed and used in the logistic regression model for the categorized factors. To evaluate the potential differences between countries in the estimated associations, statistical interaction terms between gender, age, education, living arrangement, health status, and countries were entered in a logistic regression model including all countries. Type 3 Wald χ^2 -tests were used to evaluate the statistical interaction between countries and the other factors. A result with a P value ≤ 0.05 was considered as statistically significant. Analyses were performed using SAS version 9.1 (SAS Institute Inc.).

Results

Socio-demographic characteristics of the SHARE participants who were 65 years or older at the time of the data collection are presented in Table 1. The mean age was 73.9 years over all countries, with the lowest mean age in Germany (72.6 years) and highest in Denmark (75.0 years). The age ranged from 65 to 104 years in the study population. In all participating countries, the proportion of women was higher than the proportion of men. Mean years of education (not available for Israel), as well as the proportion of persons having an educational level >2 according to the ISCED-97 codes, varied considerably between countries, with the lowest educational levels in Spain, Italy, and Greece, and the highest levels in Germany and Denmark. Sweden, the Netherlands and Germany had the highest prevalence of people reporting living with only their spouse or partner (68, 68 and 67%, respectively) while the highest prevalence of "other living arrangements" including living with your spouse/partner and/or others were noted in Spain, Italy and Israel (38, 32 and 23%, respectively). The proportion who reported having good health was highest in Switzerland (75%), followed by Belgium (61%), the Netherlands (61%) and Denmark (60%).

As our analyses were restricted to persons 65 years or older and who also had answered the question on loneliness in the drop-off questionnaire, the characteristics of this subsample are presented in Table 2. There were no large differences in mean age or in the proportions of men and women, compared with the total SHARE sample aged 65 years or older. However, there was a tendency towards a higher educational level and better subjective health status among responders of the loneliness question as compared with all SHARE participants 65 years or older.



Table 1 Sociodemographic characteristics of the SHARE participants ≥65 years

Total SHARE \geq 65 years Austria Belgium Denmark $N = 900$ $N = 1,752$ $N = 699$	Austria $N = 900$	Austria Belgium Denmark $N = 900$ $N = 1,752$ $N = 699$	Denmark $N = 699$		Germany $N = 1,372$	Germany Greece Israel $N = 1,372$ $N = 1,230$ $N = 1$	Israel $N = 1,159$	Italy $N = 1,166$	France Germany Greece Israel Italy Netherlands Spain Sweden Switzerland Total $N = 1,425$ $N = 1,372$ $N = 1,230$ $N = 1,159$ $N = 1,166$ $N = 1,172$ $N = 1,274$ $N = 1,408$ $N = 455$ $N = 14,012$	Spain $N = 1,274$	Sweden $N = 1,408$	Switzerland Total $N = 455$ $N =$	Total $N = 14,012$
Age (mean, SD) Male/female (%)	73.5 (6.8) 74.1 (6 40/60 45/55	74.1 (6.5) 45/55	75.0 (7.1) 43/57	74.7 (6.9) 42/58	72.6 (6.4) 47/53	73.5 (6.8) 74.1 (6.5) 75.0 (7.1) 74.7 (6.9) 72.6 (6.4) 74.4 (7.2) 73.4 (6.5) 72.7 (6.3) 73.6 (6.6) 40/60 45/55 43/57 42/58 47/53 44/56 49/51 47/53 48/52	73.4 (6.5) 49/51	72.7 (6.3) 47/53	73.6 (6.6) 48/52	74.8 (7.0) 74.1 (7.2) 74.5 (7.1) 43/57 49/51 46/54	74.1 (7.2) 49/51	74.5 (7.1) 46/54	73.9 (6.8) 45/55
Years of education (mean, SD)	10.9 (2.7)	10.9 (2.7) 9.4 (3.9)	11.7 (3.7)	11.7 (3.7) 7.1 (5.2)	13.0 (2.9) 6.5 (4.4)	6.5 (4.4)	n.a.	5.7 (3.9)	10.2 (3.4)	4.2 (3.8)	9.4 (3.1)	11.5 (4.4)	8.8 (4.6)
ISCED97 > 2 (%) Living arrangements (%)	09	38	62	31	74	19	57	13	34	7	33	39	38
Living alone	43	29	45	34	23	38	21	18	27	17	29	33	29
Living only with spouse/partner	4	09	51	54	29	45	56	50	89	45	89	57	56
Other living arrangement 13	13	11	3	12	6	16	23	32	5	38	3	11	15
Subjective health good or 50 very good (%)	50	61	09	49	44	45	37	37	61	38	58	75	50

Table 2 Sociodemographic characteristics of the SHARE participants ≥65 years, with response on question regarding loneliness

SHARE ≥65 years, with response on loneliness	Austria $N = 765$	Austria Belgium Denmark France Germany Greece Israel $N=765$ $N=1,145$ $N=479$ $N=482$ $N=846$ $N=845$ $N=7$	Denmark $N = 479$	France $N = 482$	Germany $N = 846$	Greece $N = 845$	Israel $N = 708$	Italy $N = 648$	Austria Belgium Denmark France Germany Greece Israel Italy Netherlands Spain Sweden Switzerland Total $N=765$ $N=1,145$ $N=479$ $N=482$ $N=846$ $N=845$ $N=708$ $N=648$ $N=791$ $N=813$ $N=949$ $N=316$ $N=8,787$	Spain $N = 813$	Sweden $N = 949$	Sweden Switzerland Total $N = 949$ $N = 316$ $N = 316$	Total $N = 8,787$
Age (mean, SD)	73.4 (6.8)	73.7 (6.3)	74.3 (6.3)	73.4 (6.3)	72.4 (6.4)	73.9 (6.8)	73.6 (6.5)	71.8 (5.5)	73.4 (6.8) 73.7 (6.3) 74.3 (6.3) 73.4 (6.3) 72.4 (6.4) 73.9 (6.8) 73.6 (6.5) 71.8 (5.5) 73.3 (6.3)	74.3 (6.5)	74.3 (6.5) 73.6 (6.9) 73.9 (6.8)	73.9 (6.8)	73.4 (6.5)
Male/female (%)	40/60 47/53		45/55	45/55	48/52	43/57	50/50	48/52	49/51	42/58	50/50	49/51	46/54
Years of education (mean, SD)	10.9 (2.7)	10.9 (2.7) 9.7 (3.8) 11.7 (3.7) 7.6 (5.1) 13.2 (2.7) 6.3 (4.3)	11.7 (3.7)	7.6 (5.1)	13.2 (2.7)		n.a.	6.4 (4.1) 10.5 (3.2)	10.5 (3.2)	4.2 (3.7)	4.2 (3.7) 9.5 (3.1) 11.7 (4.2)	11.7 (4.2)	9.1 (4.5)
ISCED97 > 2 (%)	09	40	49	36	78	16	57	17	35	7	35	41	40
Living arrangements (%)													
Living alone	43	29	42	34	22	38	21	17	25	17	26	29	28
Living only with spouse/partner 45	45	09	99	58	70	46	56	53	70	4	71	09	58
Other living arrangement	12	11	2	7	8	17	24	30	5	39	3	10	14
Subjective health good or very good (%)	51	64	42	58	4	46	45	41	61	40	59	78	53



Table 3 Prevalence of feelings of loneliness over the last week among SHARE participants ≥65 years	of feelings	of loneliness o	over the last	week amon	g SHARE p	articipants	≥65 years						
Loneliness N (%) Austria Belgium Denmark France $N = 765$ $N = 1,145$ $N = 479$ $N = 482$	Austria $N = 765$	Austria Belgium Denmark France $N = 765$ $N = 1,145$ $N = 479$ $N = 482$	Denmark $N = 479$	France $N = 482$	Germany $N = 846$	Greece $N = 845$	Germany Greece Israel Italy $N = 846 N = 845 N = 708 N = 648$	Italy $N = 648$	Netherlands Spain Sweden Sv $N = 791$ $N = 813$ $N = 949$ N	Spain $N = 813$	Sweden $N = 949$	Switzerland $N = 316$	Sweden Switzerland Total $N = 8,787$ N = 949 $N = 316$
Almost all the time 25 (3)	25 (3)	74 (6)	8 (2)	37 (8)	23 (3)	82 (10)	45 (6)	37 (6)	42 (5)	57(7)	24 (3)	3 (1)	457 (5)
Most of the time	53 (7)	84 (7)	18 (4)	36 (7)	48 (6)	91 (11)	61 (9)	81 (12)	33(4)	58 (7)	42 (4)	9 (3)	614 (7)
Some of the time	275 (36)	324 (28)	93 (19)	145 (30)	240 (28)	351 (42)	231 (33)	185 (29)	199 (25)	212 (26)	219 (23)	69 (22)	2,543 (29)
Almost none of	412 (54)	(82) (28)	360 (75)	264 (55)	535 (63)	321 (38)	371 (52)	345 (53)	517 (65)	486 (60)	664 (70)	235 (74)	5,173 (59)
the time													

Percentages do not always end up to 100, due to rounding

The prevalence of feelings of loneliness over the last week is shown in Table 3. In all countries but Greece, the majority of people reported that they had experienced feelings of loneliness almost none of the time. The prevalence of feelings of loneliness almost all of the time ranged from 1% in Switzerland to 10% in Greece. There was a significant difference in the proportions of loneliness across countries (p < 0.0001).

In Fig. 1, the prevalence of "substantial" loneliness (feelings of loneliness almost all of the time or most of the time) is shown. The countries were ordered from the lowest to the highest prevalence of substantial loneliness. The figure shows a clear pattern of lower prevalence of loneliness in the northern European countries and higher prevalence in the Mediterranean countries.

The association between loneliness and various sociodemographic factors and subjective health status is shown in Table 4. The odds of feeling lonely were significantly higher for women than for men in Spain, France, and Greece (OR (95% CI) 2.00 (1.23-3.25), 2.39 (1.24-4.60) and 1.71 (1.12–2.62), respectively). In the other countries no significant association between gender and loneliness was observed, with odds ratios indicating higher prevalence of loneliness among men in some countries and women in others. No clear sign of an association between loneliness and increasing age was noted, except in Sweden, where people 81 years or older had an odds ratio of 2.88 (95% CI 1.35-6.12) of feeling lonely compared with the reference group of 65-70 year olds. A higher educational level was associated with lower prevalence of loneliness in several countries; the association being statistically significant in Germany, Spain, France and Israel.

The most consistent association across countries was that living with only a spouse/partner was associated with markedly lower odds of feeling lonely, as compared with

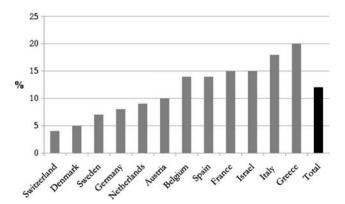


Fig. 1 Percentage of SHARE participants reporting substantial loneliness (feelings of loneliness almost all of the time or most of the time over the last week)



						,			•		•)	
	Austria	Belgium	Denmark	France	Germany	Greece	Israel	Italy	Netherlands	Spain	Sweden	Switzerland	p value for interaction variable × country
Gender													p = 0.007
Male (ref)	1	1	1	1	1	1	1	1	1	1	1	1	
Female	0.70 (0.39–1.25)	70 1.01 (0.39–1.25) (0.67–1.51)	0.56 (0.23–1.36)	2.39 (1.24–4.60)	0.98 (0.53–1.82)	1.71 (1.12–2.62)	1.32 (0.83–2.09)	1.33 (0.84–2.09)	0.77 (0.3–1.35)	2.00 (1.23–3.25)	1.58 (0.88–2.84)	0.31 (0.08–1.17)	
Age													p = 0.06
65–70 (ref)	1	1	1	1	1	1	1		1	1	1	1	
71–80	1.53 (0.84–2.80)	53 0.55 0.60 (0.84–2.80) (0.35–0.86) (0.22–1.63)	0.60 (0.22–1.63)	1.04 (0.56–1.94)	0.94 (0.52–1.70)	0.91 (0.60–1.37)	1.04 (0.62–1.75)	1.20 (0.75–1.92)	1.30 (0.68–2.47)	0,79 (0.49–1.28)	1.79 (0.90–3.57)	0.20 (0.04–1.1)	
81+	1.71 (0.85–3.45)	71 0.77 (0.85–3.45) (0.46–1.28)	0.93 (0.31–2.82)	0.51 (0.22–1.17)	1.13 (0.54–2.35)	1.15 (0.69–1.91)	1.53 (0.83–2.79)	1.99 (0.96–4.10)	1.66 (0.78–3.51)	0.64 (0.35–1.18)	2.88 (1.35–6.12)	1.53 (0.38–6.20)	
Education													p = 0.29
ISCED ≤ 2 (ref)	1	1	1	1	1	1	1	1	1	1	1	1	
ISCED > 2	0.68 (0.40–1.14)	68 0.77 0.62 (0.40-1.14) (0.52-1.14) (0.26-1.52)		0.40 (0.20–0.79)	0.48 (0.27–0.87)	0.69 (0.39–1.24)	0.56 (0.36–0.88)	1.05 (0.56–1.95)	0.87 (0.49–1.53)	0.13 (0.02–0.97)	1.11 (0.63–1.97)	1.01 (0.26–3.82)	
Living arrangement													p = 0.26
Living alone (ref)	1	1	1	1	1	1	1	1	1	1	1	1	
Living only with spouse/partner	0.28 (0.15–0.53)	.28 0.12 (0.15–0.53) (0.07–0.18)	0.16 (0.06–0.46)	0.15 (0.08–0.28)	0.26 (0.15–0.47)	0.27 (0.17–0.42)	0.26 (0.15–0.45)	0.23 (0.14–0.39)	0.12 (0.07–0.22)	0.21 (0.12–0.37)	0.24 (0.13–0.43)	0.15 (0.04–0.59)	
Other living arrangement 0.46 (0.2)	0.46 (0.21–1.04)	46 0.20 (0.21–1.04) (0.10–0.39)	0.74 (0.08–6.50)	0.27 (0.09–0.82)	0.66 (0.29–1.54)	0.40 (0.23–0.69)	0.59 (0.33–1.05)	0.22 (0.12-0.40)	0.19 (0.04–0.87)	0.31 (0.19–0.51)	0.25 (0.03–1.96)	1	
Health													p = 0.05
Good subjective health (ref)	1	1	1	1	1	1	1	1	1	1	1	1	
Poor subjective health	2.22 (1.30–3.77)	(1.30–3.77) (1.93–4.13) (0.79–4.40)		2.01 (1.15–3.51)	3.66 (1.90–7.04)	2.12 (1.45–3.10)	3.74 (2.20–6.36)	2.52 (0.54–4.12)	2.07 (1.23–3.49)	2.01 (1.26–3.21)	0.85 (0.49–1.49)	2.87 (0.79–10.47)	

Odds ratios and 95% confidence intervals



living alone (OR (95% CI) ranging from 0.12 (0.07–0.18) in Belgium and 0.12 (0.07–0.22) in the Netherlands to 0.28 (0.15–0.53) in Austria). Also other types of living arrangements were associated with lower prevalence of loneliness when compared to living alone, although less favourable than living only with a spouse/partner. The association was statistically significant in the Netherlands, Spain, Italy, France, Greece and Belgium.

The perception of having poor health was associated with increased prevalence of loneliness in all countries except Sweden, the association being statistically significant in Austria, Germany, the Netherlands, Spain, France, Greece, Belgium and Israel. Differences between countries in the studied associations were formally tested by including statistical interaction terms between countries and the other factors in a logistic regression model including all countries. This model yielded a statistically significant interaction between countries and gender (p=0.007) and between countries and subjective health (p=0.05). The interaction effect between countries and age was close to significant (p=0.06).

In all countries, there were a significant lower odds of loneliness in the groups living only with their spouse/partner, as compared with living alone. However, within this group, persons who reported caring for their partner showed a higher prevalence of feeling lonely as compared with those not caring for a partner (10% vs. 6%, p = 0.003), although the prevalence of loneliness was still not as high as among those living alone (25%).

When we combined living arrangement and subjective health status, we found that in all countries, except Sweden, the highest prevalence of feelings of loneliness were in the group who lived alone and reported poor health, followed by the group who lived alone and had good health. Still lower prevalence of loneliness was reported by those living together with someone and had poor health, while the least lonely group was those who lived together with someone and reported good health. In Sweden, the highest prevalence of loneliness was found among people who lived alone and reported good health, but the least lonely group was also in this country those who lived together with someone and reported good health (data not shown, but can be provided by the authors upon request). Analyzed by logistic regression, we found no statistical significant interaction between countries and the combination of living arrangements and health status. The results from the logistic regression model including all countries are shown in Table 5, where a strong association between loneliness and the combinations of living arrangement and health status can be seen. The group who lived together with someone and had good health had 10 times lower odds of loneliness, as compared with those living alone and reporting bad health.

Table 5 The association between loneliness and the combination of living alone or not and subjective health in men and women ≥ 65 years in the SHARE, analyzed by logistic regression

Living arrangement and subjective health status	
Living alone, bad health (ref)	1
Living alone, good health	0.51 (0.42-0.63)
Not living alone, bad health	0.25 (0.21-0.30)
Not living alone, good health	0.10 (0.08-0.12)
8 9	0.1.0 (0.00 0.1.1

Odds ratios and 95% confidence intervals, adjusted for gender, age, education and country

Discussion

This large cross-national survey provides an opportunity to explore international differences in factors explaining loneliness, since loneliness was probed in a uniform way in all participating countries in SHARE.

We found that older people in the Mediterranean region reported feelings of substantial loneliness more frequently than older people in the northern European countries. The protective effect of marriage/partnership regarding the risk of loneliness was consistent across countries. In most countries, we also observed an association between poor subjective health and loneliness. There were significant interaction effects between countries and gender, and between countries and subjective health, with regard to feelings of loneliness. We also noted a tendency towards an interaction effect between countries and age. There was an overall pattern that persons who lived alone and at the same time reported poor subjective health had much higher prevalence of feelings of loneliness than other groups. Lowest prevalence of loneliness was noted among those living together with someone and having good health.

We have not analyzed all relevant aspects of the concept of loneliness: this has been attempted by others (for a review, see de Jong Gierveld 1998). Nor have we considered all the complexities of cross-cultural research. Another limitation in our analysis of the cross-national pattern is that the data source suffers from varying amounts of external and internal non-response, affecting also the questions on loneliness. The SHARE question on loneliness was asked in a self-administered questionnaire, to be sent in after the interview or filled-out while the subject's partner (if any) was interviewed. Selective non-compliance may have taken place and the household structure of those who have answered this question may not be fully representative, as suggested by the fact that the educational level was in general a bit higher and the subjective health slightly better among the responders to the loneliness question, as compared with the complete SHARE sample of people 65 years or older. This should be kept in mind

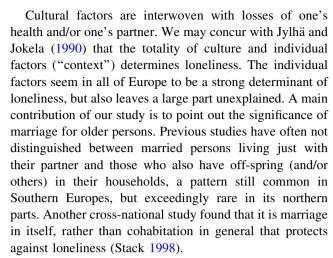


when looking at the prevalence of loneliness and its association with socio-demographic factors and health across countries.

The country variations in loneliness found in SHARE bolster patterns found in previous studies, which have probed loneliness differently, but produced similar systematic variations. However, this does not rule out the possibility of semantic differences in the way loneliness is interpreted and responded to (Jylhä and Jokela 1990). There may also be instrument effects: in a survey of the Spanish elderly in 1993, subjects could air their potential loneliness in three ways, one of them was an open question where subjects could name issues that preoccupied them. Probed in this way, 5% mentioned loneliness, but many more mentioned deteriorating health and problems of various kinds in their family (CIS 1993). Obviously, choosing to see loneliness as a paramount problem in everyday life elicits fewer responses than answers to a general question asked of everyone. Assessing loneliness this way elicits about the same prevalence rates for Spain and Sweden, although we only have this evidence from a national Swedish survey in 1975 (SOU 1977:100). Eight per cent of older Swedes then reported that loneliness was their greatest problem (tabulations available upon request).

Like our predecessors, we find that loneliness is reported much less frequently by older people in Northern Europe than in its Southern countries, in reverse order from what one would expect from rates of solitary living and other indicators of assumed social community. This is at variance with our most simplified and cherished views of "anomie" in Nordic countries and "Gemeinschaft" in Southern societies. It has been ventured (Jylhä and Jokela 1990) that this may be due to a change in community ties rather than to their level of social ties per se. Yet, this is unlikely to explain higher rates in Southern countries as loneliness is just as high in Italy, with little change in co-residence, as in Spain with her rapid increase in solitary living of older persons. It also conflicts with constant and low levels of loneliness in the Nordic countries and Britain when they went through household atomization (Sundström 1983, Victor et al. 2005).

Although levels of loneliness are much higher in the South, the prevalence depends systematically on health and living arrangements. Healthy persons living with someone (in the North nearly always their partner) are the least lonesome, persons in poor health living alone, the most. Little surprising, married/partnered persons everywhere rarely feel lonesome. However, we noted that married persons who care for their spouses report more loneliness than married persons not caring for their spouses. When a spouse/partner suffers from poor health, this may generate feelings of loneliness (Korporaal et al. 2008) and depression (Beeson 2003), but also the quality of the marriage may result in loneliness (de Jong Gierveld et al. 2009).



Marriage/partnership is a form of community, and a preferred one, evidenced by increasing unmarried cohabitation and "substitutes" such as living-apart-together among older people in the Nordic countries (Sundström et al. 2008). It also provides good protection against loneliness.

In conclusion, we found that living together with a partner is associated with lower prevalence of loneliness across countries. With regard to gender and health we found some differences between countries in how these factors were related to loneliness. Living alone in poor health is associated with 10 times higher odds of feeling lonely as compared with living together with someone and having good health.

Acknowledgments This article uses data from SHARE Wave 1, as of December 2008. SHARE data collection in 2004–2007 was primarily funded by the European Commission through its 5th and 6th framework programmes (project numbers QLK6-CT-2001-00360; RII-CT-2006-062193; CIT5-CT-2005-028857). Additional funding by the US National Institute on Aging (grant numbers U01 AG09740-13S2; P01 AG005842; P01 AG08291; P30 AG12815; Y1-AG-4553-01; OGHA 04-064; R21 AG025169) as well as by various national sources are gratefully acknowledged (see http://www.share-project.org for a full list of funding institutions). We also are grateful to two anonymous reviewers of an earlier version of the manuscript.

References

Beeson RA (2003) Loneliness and depression in spousal caregivers of Alzheimer's disease versus non-caregivers spouses. Arch Psychiatr Nurs 17(3):135–143

Börsch-Supan A, Jürges H (eds) (2005). The survey of health, ageing and retirement in Europe—methodology. MEA, Mannheim

CIS (1993) Centro de Investigaciones Sociológicas. Apoyo informal a las personas mayores. Estudio 2072. Madrid

Daatland S-O (1994) Folkemeningen om familien, de eldre og samfunnet. (The popular opinion on family, older people and society). Aldring & Eldre 1:7–12

de Jong Gierveld J (1998) A review of loneliness: concept and definitions, determinants and consequences. Rev Clinl Gerontol 8:73–80



- de Jong Gierveld J, Tilburg T (1999) Living arrangements of older adults in the Netherlands and Italy: coresidence values and behaviour and their consequences for loneliness. J Cross-Cult Gerontol 14:1–24
- de Jong Gierveld J, Broese van Groenou M, Hoogendoorn AW, Smit JH (2009) Quality of marriages in later life and emotional and social loneliness. J Gerontol 64B:497–506
- Dykstra PA (2009) Older adult loneliness: myths and realities. Eur J Ageing 6:91–100
- Jylhä M, Jokela J (1990) Individual experience as cultural—a crosscultural study on loneliness among the elderly. Ageing Soc 10(3):295–315
- Killeen C (1997) Loneliness: an epidemic in modern society. J Adv Nurs 28(4):762–770
- Korporaal M, Broese van Groenou M, van Tilburg TG (2008) Effects of own and spousal disability on loneliness among older adults. J Aging Health 20:306–325
- Ogg J (2006) Heatwave: implications of the 2003 French heat wave for the social care of older people. The Young Foundation: working paper no 2, October 2005. Mimeo
- SAS Institute Inc. (2002–2003) The SAS system, release 9.1. SAS Institute, Cary
- Sheldon JH (1948) The social medicine of old age. Oxford University Press, Oxford
- Socialstyrelsen (1994) Äldre och äldreomsorg i Norden och Europa. (National board of health and welfare. Older people and old age care in the Nordic countries and Europe) Ädelutvärderingen 94:2 (auth. Andersson, L.)
- SOU 1977:100 Pensionär '75. Intervjuundersökningen. Bilaga B. (Government White Paper 1977 no. 100. The pensioner investigation 1975. Appendix B, The survey study)

- Special Eurobarometer 283 (2007). European Commission, Brussels Stack S (1998) Marriage, family and loneliness: a cross-national study. Sociol Perspect 41(2):415–432
- Sundström G (1983) Caring for the aged in welfare society, Stockholm. Stockholm studies in social work: 1. Stockholm, Liber (Diss.)
- Sundström G, Malmberg B, Sancho Castiello M, del Barrio É, Castejon P, Tortosa, MA, Johansson L (2008) Family care for elders in Europe: policies and practices. In Szinovacz M, Davey A (eds) Caregiving contexts: cultural, familial, and societal implications. Springer Publishing Company, New York
- Tesch-Römer C, von Kondratowitz H-J (2006) Comparative ageing research: a flourishing field in need of theoretical cultivation. Eur J Ageing 3:155–167
- Tilburg T, Havens B, de Jong Gierveld J (2004) Loneliness among older adults in the Netherlands, Italy and Canada: a multifaceted comparison. Can J Aging 23(2):169–180
- Victor CR, Scambler SJ, Shah S, Cook DG, Harris T, Rink E, de Wilde S (2002) Has loneliness amongst older people increased? An investigation into variations between cohorts. Ageing and society 22(5):585–597
- Victor CR, Scambler SJ, Bowling A, Bond J (2005) The prevalence of, and risk factors for, loneliness in later life: a survey of older people in Great Britain. Ageing and Soc 25:357–375
- Walker A (1993) Age and attitudes. Main results from a Eurobarometer survey. Commission of the European Communities, Brussels
- Walker A, Walker C (2005) The UK: quality of life in old age II.
 In: Walker A (ed) Growing older in Europe. Open University Press, Maidenhead

